

hydrochloric acid eluant fractions from a resin column) were conveniently reduced in volume by evaporation in a water bath with a moderate flow of air from an air jet above the liquid. Ammonium salts, when present in hydrochloric acid solutions, could be eliminated during evaporation by the occasional addition of nitric acid. In such cases the elimination of ammonium chloride prior to completion of the evaporation reduced losses of tracer activities. It was often necessary to combine fractions from a Dowex 50 column employing ammonium lactate eluant, to reduce the volume, and to separate interfering elements from the actinides by subsequent separations. To destroy the lactate in such cases, continuous fuming with nitric acid or aqua regia and eventual reduction to dryness was effective but time-consuming. Wet ashing with sulfuric and nitric acids in a platinum container followed by fuming to dryness was a much more rapid and effective procedure provided elements with insoluble sulfates (such as calcium) were absent. Direct evaporation to dryness and heating to a high temperature in platinum frequently presented difficulties in redissolving the activities. Best results were obtained by heating the residue on platinum with weak hydrofluoric acid in 10 M hydrochloric acid or 6 M nitric acid. Such difficulties were primarily dependent on the amount and composition of solid impurities which were present. It was also found that the new elements could be extracted from large volumes of solutions containing lactate by acidifying the solution to a pH of about 1 and then passing the solution slowly through a column packed